



# Inkjet Age of Materials Conference 2018 (pages 2-4)

September 5-6, 2018

## Industrial Print Academy

# Inkjet Technology for Industrial Print (page 6)

September 7, 2018

Embassy Suites Chicago Lombard/Oak Brook  
Lombard, Illinois

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### Inkjet Age of Materials Conference 2018 Speakers

Dr. Nasser Budraa, Ricoh PSA  
John Cooper, TRS Consulting  
John Grant, Honeywel  
Peter Hessney, Sensor Films  
Valerie Kaiser, Shepherd Color

Dave Bell, Ricoh Production Print  
Lawrence Gamblin, Kao Collins  
Daisuke Hamada, Kao Collins  
Molly Hladik, Michelman  
Bob Keller, Marabu NA

Kim Champion, Memjet  
Mark Geeves, Color-Logic  
Mark Hanley I.T. Strategies  
Dr. Alan Hudd, Alchemie  
Dr. Simon Kew, Alchemie

Andreas Knecht, Zhuhai Print Rite  
Im Rangwalla, Energy Sciences

Tom Molamphy, Siegwerek  
Dr. Ray Work, Work Associates



# Inkjet Age of Materials Conference 2018

Embassy Suites Chicago Lombard/Oak Brook  
Lombard (Chicago), Illinois

**September 5-6, 2018**

IMI's **Inkjet Age of Materials Conference 2018** is designed to assess the current and needed developments in inkjet materials necessary to realize the full potential for inkjet technologies in current and new applications.

The inkjet industry has made great strides in developing successful inks and functional fluids for many applications, yet continued ink and fluids development is considered by many to be the most essential component for inkjet's continued applications diversification and market growth.

IMI's **Inkjet Age of Materials Conference 2018** addresses the challenges, options, and opportunities associated with future inkjet materials requirements, technology choices, drivers & barriers, and other issues required to effectively implement inkjet ink and fluids technologies for applications expansion and diversification. This strategic conference for the inkjet industry provides high value information on innovations, trends, and issues for senior executives, commercial managers, development teams, end users, and others looking to expand their knowledge and understanding of materials developments, products, and technologies shaping the future of inkjet as well as exchanging ideas with industry experts and peers. This two day event features the following elements:

- Updates & Views from Inkjet Pacesetters
- New Technology Needs & Introductions
- Complimentary Display Space
- I.T. Strategies Report: "Digital Document & Industrial Print Beyond the Office"
- Market/Opportunity Perspectives from industry experts
- Networking Lunces, Breaks & Recetion
- Suppliers Forum Presentation Opportunities

**Get a "Jump Start" in The Future of Inkjet!**

## Wednesday, September 5, 2018

- 8:00 a.m. Registration
- 9:00 a.m. Opening Session

### Welcome & Introductions

Alvin G. Keene, President, IMI, Carrabassett Valley, Maine

### Inkjet at the turning point

Mark Hanley, President, I.T. Strategies, Hanover, Massachusetts

- Inkjet being drawn into graphic arts, packaging, & industrial markets
- What is inkjet development status on film, paper, textiles, & hybrid substrates?
- How much ink is used in which markets & on which substrate (liters & \$)?
- What are the performance limitations by market, substrate, & ink type?
- What has to be done to maximize inkjet capability?
- When can it be done?

### Specialty chemicals for jetted fluids

John Cooper, President, TRS Consulting, Hendersonville, North Carolina

- Diverse jet ink applications
  - Documents
  - Textiles, decoration
  - Functional and the list keeps growing!
- Major chemicals for jet inks
  - Polymer binders
  - Dispersants
  - Dyes & pigments
  - Solvents
  - Biocides
  - Surfactants
- Challenges/Opportunities
  - Economic
  - Environmental (VOC, Reach & Others)

### Exploring implications of technological innovation for production inkjet printing

Lawrence Gamblin, President, Kao Collins, Cincinnati, Ohio

- It takes a village
- Economic factors
- Technological developments with potential to accelerate innovation
  - Chemistries
  - Drying
  - Equipment
- Technical developments driving market growth
  - Water based inks
  - UV/EB inks
  - Solvent inks
  - Electronics
  - 3D printing
  - Medical
  - Food
- Expected winners & losers

12:00 Noon Networking Lunch

**Program continued on next page**



Mark Hanley  
I.T. Strategies



John Cooper  
TRS Consulting



Lawrence Gamblin  
Kao Collins

**For Latest Program Updates &  
To Register Online  
Visit IMI Web Site  
[www.imiconf.com](http://www.imiconf.com)**

**All print starts with design – Why you should care?**

Mark Geeves, Director of Sales & Marketing, Color-Logic Inc., West Chester, Ohio

- All print, conventional or digital, starts with design
- Today, brands managers (not just printers/converters) are involved in printing process selection & implementation and approval of printed materials
- Ink developments must have brand strategy & designer in mind
- Benefits for brands in differentiating themselves
- Decorative & reflective color plus white communications system  
Brand with shelf impact at lower cost than standard printing  
Print foil and reflective substrates using white ink & CMYK  
250 new metallic colors using only 5 inks  
Adapts to future substrates, inks, and coatings
- Case studies of digital print ink advancements resulting in  
No major capital expense – print on current presses  
Economical production  
Getting to market faster

**Pre & post coat fluids development for aqueous inkjet commercial & packaging printing**

Kim Champion, Vice President Inks & Materials, Memjet, San Diego, California & Molly Hladik, Technical Product Manager, Michelman, Cincinnati, Ohio

- Goal: Enable inkjet printing on standard offset coated commercial papers, coated corrugated liners, & folding cartons
- Goal: Apply with standard flexo coating equipment
- Goal: Enable leading cost/performance for inkjet commercial & packaging print
- Memjet introduction & Duralink overview with focus on aqueous, pigment inks
- Market dynamics for standard media vs inkjet coated media
- How we “win” with use of pre/post coats
- Pre/post coat fluids development: Why & how Memjet partnered with Michelman
- Michelman introduction
- Process development of novel pre coat fluid: How technology differs from other offerings in the market
- Optimization of post coat fluid
- Results & performance

Mark Geeves  
Color-Logic



Kim Champion  
Memjet



Molly Hladik  
Michelman



Andreas Knecht  
Zhuhai  
Print Rite

**Ink innovation fuels expansion of applications**

Dave Bell, Manager Product Marketing (Media), Ricoh Production Print, Boulder, Colorado

- Understanding the basics of applying aqueous ink to paper
- Early development & challenges of aqueous inks with uncoated & coated substrates
- Difference between inkjet treated & inkjet coated media
- Significant increase in inkjet specific substrates drives applications
- Properly matching the inks & substrates to the application
- Options in today’s market & the race to capture the commercial print market

**Complex inorganic color pigments : Durable pigments or inkjet applicatkins**

Valerie Kaiser, Technical Sales Representative, Shepherd Color, Cincinnati, Ohio

- Where CICPs are currently uses in various markets/industries
- What properties make CICPs so valuable
- How CICPs are made & what they are made of make them different
- Adapting this technology to inkjet applications

**Authentication solutions using inkjet technology**

John E. Grant, Business Development Manager, Honeywell Performance Materials and Technologies, Morris Plains, New Jersey

- Global impact of counterfeiting
- Levels of authentication for document security & brand protection
- Technology of fluorescent dyes & pigments in inkjet inks
- Invisible bar code scanning equipment
- Machine readable UV + pigment/dyes
- Detectors custom designed for specific client applications

**New dye sublimation ink for textile printing**

Andreas Knecht, GM Export Sales, Zhuhai Print Rite New Marweials Corporation, Zhuhai, China

- Dye sublimation principles, inks, media interaction, transfer, and economics
- SuperPremium dye sublimation solution
- Ink formulation enables higher yield & density, sharper images, and lower cost
- Performance results
- Development capabilities

**Suppliers’ Forum:** 5-Minute Presentations Related To Ink Jet Technology, Capabilities, Services, New Product Introductions, etc. Suppliers’ Forum is open to all Conference Registrants.

6:00 p.m. Networking Reception in Display Area

**Program continued on next page**



Dave Bell  
Ricoh  
Production Print



Valerie Kaiser  
Shepherd Color



John Grant  
Honeywell

**Complimentary Displays & Suppliers’ Forum**

IMI’s **Inkjet Age of Materials Conference 2018** and **Industrial Print Academy** provide the opportunity to have complimentary display space to exhibit your products, technology or services. And the **Inkjet Age of Materials Conference 2018** provides the opportunity to give a commercial 5-minute Suppliers’ Forum presentation.

IMI will cooperate with all interested parties to provide appropriate space so products can be displayed and demonstrated throughout the programs. **There is no fee in addition to the standard program registration fees to have a display and/or to give Suppliers’ Forum presentations. To reserve your display space and Suppliers’ Forum presentation slots, please register online and check off the boxes indicating your participation OR complete the registration form in this flyer and fax to +1-207-235-2226 OR email [al@imiconf.com](mailto:al@imiconf.com)**

Thursday, September 6, 2018

8:30 a.m. Session 3

**How to support extended range of ink materials through printhead improvements**

Dr. Nasser Budraa, Director of R&D, Ricoh Printing Systems America, Simi Valley, California

- Ink is most important aspect of inkjet technology  
Printhead technology must follow
- Printhead design improvements to support wider range of inks
- An outline of ink compatibility test requirements
- Current printhead portfolio vs ink requirements
- Future printhead design & performance directions

**A material impact: Ink selection in printed electronics production**

Peter Hessney, President, Sensor Films, Victor, New York

- Materials considerations when developing robust production processes for printed electronics
- Performance evaluation of commercially available conductive inks in high throughput operations & production systems for multilayer, multi-material structures
- Enablers for rapid & efficient printed electronics production
- Materials trends and future requirements

**Precision digital coatings**

Dr. Alan L. Hudd, Director & Founder & Dr. Simon Kew, VP Technology & Business Development, Alchemie Technology, Cambridge, UK

- Digital materials science overview
- Technologies for digital precision coating of functional materials
- Challenges of applying precise coatings in a digital world
- Deposition using liquid & powder digital technologies
- Typical industrial applications
- Future trends & predictions

**New water-based pigment ink for industrial applications**

Daisuke Hamada, Executive Vice President (R&D), Kao Collins, Cincinnati, Ohio

- Many attempts to substitute water-based solutions for solvent-based & energy curable ones due to its environmental friendliness
- Requirements for water-based inkjet ink for industrial applications such as flexible packaging  
High reliability  
Good image quality on large varieties of substrates  
High image durability on non-absorptive substrates
- Desire to improve image durability of water-based systems vs. UV systems
- Development of new water-based ink providing high durability ink film by combination of two different technologies  
Pigment nano-dispersion technology  
Polyester resin technology used for toner binder
- Introduction of water-based pigment ink with high image durability and its working mechanism
- Summary & discussion about potential applications

12:00 Noon Networking Lunch



Dr. Nasser Budraa  
Ricoch Printing Systems America



Peter Hessney  
Sensor Films



Dr. Alan Hudd  
Alchemie Technology

1:00 p.m. Session 4

**UV/EB session in partnership with**



**New designs in UV & latex inks for graphics**

Dr. Ray A. Work, III, President, Work Associates, Bradenton, Florida

- UV/LED gel inks from Océ/Canon
- Hybrid UV/LED from Sun, EFI, & Durst
- New generation latex inks from HP, flatbed application & white ink
- Technical capabilities, benefits, and challenges
- Implementation of these technologies today
- Potential for the future

**UV low migration capable inkjet inks for packaging – where do they fit?**

Tom Molamphy, Sales & Technology Manager Inkjet – North America, Siegwerk, Portland, Oregon

- Inkjet continues to gain foothold in packaging markets
- UV ink application areas in packaging
- Focus on “low migration” UV capable inks
- Comparison of UV & water based inks
- “Low migration” issue: Specifics of what this means for inkjet when used as part of “low migration” capable system for packaging

**Digital ink for glassware - a success story for digital manufacturing**

Bob Keller, General Manager, Marabu North America, North Charleston, South Carolina

- Evolution from inorganic to organic UV screen inks - Establishing the path to digital
- Inherent challenges for UV on glass
- UV ink component selection - the basics (and trade-offs)
- Industry durability requirements
- The impact of pre-treatment
- Major players & projects
- Future advancements

**New compact low voltage EB equipment for curing inkjet inks for packaging & label markets**

Im Rangwalla, Market Development Manager, Energy Sciences, Inc., Wilmington, Massachusetts

- What is EB curing & its applications today?
- Advantages of EB curing for food packaging applications
- Theory of EB technology - how does it work?
- EB requirements for curing inkjet inks, coatings, & adhesives
- New compact EB equipment for inkjet applications

4:00 p.m. Adjournment



Dr. Simon Kew  
Alchemie Technology



Dr. Ray Work  
Work Associates



Tom Molamphy  
Siegwerk



Daisuke Hamada  
Kao Collins



Bob Keller  
Marabu NA



Im Rangwalla  
Energy Sciences

## Inkjet Age of Materials Conference 2018 Strategic Advisory Board



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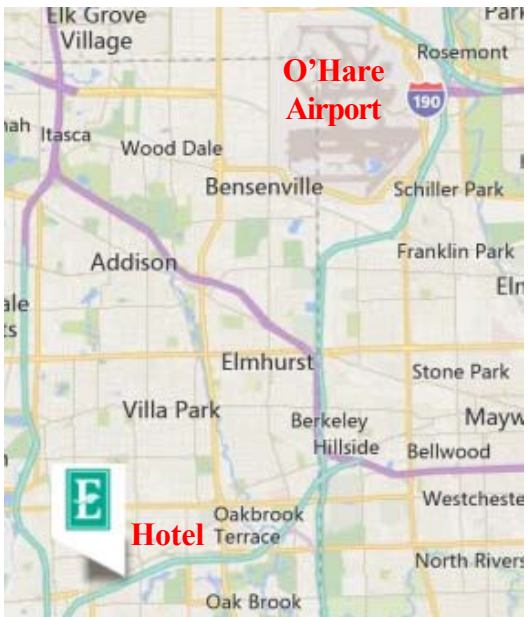
Dr. Alan Hudd  
Alchemie Technology

## Sponsorship Opportunities

### Inkjet Age of Materials Conference 2018

IMI is excited to announce a sponsorship opportunity for industry suppliers to position themselves "front and center" before a key group of inkjet business leaders including executives, product developers, technologists, major users, etc. - **PLUS** distributing their message to IMI global database of over 20,000 relevant contacts.

For details on sponsorship opportunities, contact Al Keene [al@imiconf.com](mailto:al@imiconf.com).



**Directions from O'Hare:**  
**294 South to I-88 West**  
**Exit on Highland Avenue**  
**Right to Butterfield Rd (Rt 56)**  
**Hotel 1/4 mile on right**



### Inkjet Technology for Industrial Print Course Leader

**Dr. Alan L. Hudd**  
**Director and Founder**  
**Alchemie Technology**  
**Cambridge, UK**

Dr. Hudd is Director and Founder of Alchemie Technology Ltd. Alchemie is an independent contract development and consultancy company to the industrial inkjet industry. Alchemie is also developing and commercialising a range of novel printhead technologies through its joint venture company, Jetronica. Jetronica specialises in supplying solutions to selectively pattern liquids and powders capable of using a wide range of chemistries from graphene through textile pre-treatments and 3D printing of metal powders to drugs for implantable drug devices.

Dr. Hudd was the Founder and Managing Director of Xennia Technology from 1996 to 2012. During this period, he built Xennia to become a world leading Inkjet developer and solutions provider to industrial inkjet markets.

Dr. Hudd is credited with being one of the pioneers to successfully inkjet print UV curable materials. In one case, high aspect ratio UV curable printing was achieved to create fine 3D tooling for the use of injection moulding. A number of other projects followed that have sown the seeds for many current UV cure applications.

He is a frequent speaker at inkjet industry events worldwide and is co-presenter of **The Inkjet Academy** which has been attended by over 3,000 participants in the US, China, Europe, Japan, and India. Dr. Hudd graduated with B.Sc. Honours degree in Chemistry and Physics, M.Sc and Ph.D research degree in Polymer Chemistry from Manchester University.

**September 7, 2018**

It's hard not to notice that the world is going digital, and that inkjet's current growth is being driven by manufacturing or "industrial print" applications. Leading market forecaster IT Strategies has the industrial print market vendor revenues (hardware & consumables) growing to \$10B in 2020 - yielding over \$40B of retail revenue to print providers for the printed output. This includes applications such as décor, product and surface decoration, deposition and incorporation of functional materials into products, complex multi-process 3D product manufacturing applications, security, packaging, and labeling.

The key to successful entry and participation in the industrial inkjet arena is a comprehensive knowledge and understanding of inkjet technologies and how they enable successful industrial inkjet applications. IMI's **Inkjet Technology for Industrial Print Course** covers the inkjet system, its components plus the issues and coming developments that will shape the future of inkjet.

Whether you are an inkjet industry supplier or in any current or future end use industry, whether you are already deeply involved in industrial print or you plan to be in the future: IMI's **Inkjet Technology for Industrial Print Course** provides an understanding of and an ability to recognize what is possible in the near term; the limits of current technologies; and insights into the breakthroughs necessary to achieve ultimate success. Led by recognized inkjet industry expert Dr. Alan L. Hudd, Director & Founder of Alchemie Technology (and co-presenter for popular **Inkjet Academy**, this course will give your understanding of the industrial inkjet industry an expert start or a timely update.

**Friday, September 7, 2018**

8:00 a.m. Registration

8:30 a.m. Course Session Begins

**Introductions & Course Overview****The inkjet system: How components work & roles they play**

- **Printheads: Types, operation principles, design parameters, etc.**
- **Drive electronics & data management**
- **Ink management system**
- **Ancillary technologies: Substrate/material handling, motion control, finishing, etc.**
- **Understanding the inkjet printing process**

**Inkjet inks**

- **Ink types: Aqueous, solvent, oil, phase change & UV cure**
- **Inkjet ink design & formulation**
- **Dyes, pigments & specialty additives**
- **Drop formation**
- **Substrate interactions**
- **Drying & Curing**
- **Properties influencing piezo inkjet ink performance**
- **Testing inks for reliability: methods & characterization**
- **Establishing suitability for applications**

**Print quality**

- **Establishing requirements**
- **Factors affecting print quality**
- **Printhead-ink-substrate**
- **Grayscale methods**
- **Drop detection**
- **Banding, single pass issues**
- **Drying & curing effects**

**Follow IMI on Social Media**Twitter [www.twitter.com/IMI\\_conf](http://www.twitter.com/IMI_conf)LinkedIn [www.linkedin.com/in/alvinkeene/](http://www.linkedin.com/in/alvinkeene/)Facebook [www.facebook.com/imiconf/](http://www.facebook.com/imiconf/)**Why inkjet?**

- **Versatility & customization: Digital print proposition**
- **Materials, energy & time savings = improved ROI**
- **Print plus deposition, coating, additive manufacturing and other unique applications**
- **Integration into existing production environments**
- **Marketing advantages**
- **Brand identity**
- **Inkjet as a disruptive technology**

12:00 Noon Networking Lunch

1:00 p.m. Course reconvenes

**Major industrial inkjet applications: Status, challenges and expectations**

- **Architectural: Glass, wall coverings, etc.**
- **3D printing/additive manufacturing**
- **Flooring: ceramic tiles, laminates, wood, etc.**
- **Packaging: Containers, corrugated, flexible**
- **Printed electronics**
- **Product decoration**
- **Textiles**

**Material advancements = new industrial print applications**

- **Anisotropy, flakes**
- **Bioengineering materials (Cells, tissue, organs, etc.)**
- **Composites**
- **Drugs/pharmaceuticals**
- **Food grade inks/fluids**
- **Functional fluids: reactive, electrical, biofunctional**
- **Graphene & 2D materials**
- **Metals, powders & dispersions**

**Competitive & available application techniques**

- **Driven by societal transition to digital**
- **Inkjet**
- **3D printing/additive manufacturing techniques**
- **Digital dispensing**
- **Hybrid approaches**

**Developing your digital implementation roadmap****What can be expected in the next few & ten years?**

4:00 p.m. Course adjournment

## REGISTRATION INFORMATION

### Inkjet Age of Materials Conference 2018

Registration Fees: \$1095 per registrant  
\$995 for each additional registrant from same organization when registered as a group

The registration fee includes attendance at all conference sessions, all scheduled conference functions, and an electronic copy of the conference reference materials plus I.T. Strategies' "Digital Document & Industrial Print - Beyond the Office" Market Report.

### Industrial Print Academy - Inkjet Technology for Industrial Print Course

Registration Fees: \$695 per registrant  
\$645 per registrant from same organization for two registrants  
\$595 per registrant from same organization for three or more registrants

The registration fee includes attendance at all course sessions, all scheduled course functions, and an electronic copy of appropriate course reference materials plus I.T. Strategies' "Digital Document & Industrial Print - Beyond the Office" Market Report.

Cancellations will receive a 100% refund if made 96 hours prior to the start of the program. Cancellations made less than 96 hours prior to the start of the program will not receive a refund, but will receive an electronic copy of program materials. Substitutions may be made at any time.

**To register**, complete online registration at [www.imiconf.com](http://www.imiconf.com) OR submit the registration form below to Susan Vandrey, Conference Administrator, Information Management Institute, Inc., 1106 Valley Crossing, Carrabassett Valley, ME 04947 USA. You may reserve space by phone +1-207-235-2225, fax +1-207-235-2226 or email [imi@imiconf.com](mailto:imi@imiconf.com)



## Inkjet Age of Materials Conference 2018 and Industrial Print Academy Registration Form

- Inkjet Age of Materials Conference 2018**  
**September 5-6, 2018**
- Industrial Print Academy - Inkjet Technology for Industrial Print Course**  
**September 7, 2018**

**I wish to reserve a**

- Display Space**
- Suppliers' Forum slot (NOT Available for Industrial Print Academy)**

**Please send me information on**

- Sponsorship Opportunities**

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### Embassy Suites Cicago - Lombard/Oak Brook

IMI's **Inkjet Age of Materials Conference 2018 & Industrial Print Academy** are being held at the Embassy Suites Chicago - Lombard/Oak Brook - recipient of Trip Advisor's 2018 Certificate of Excellence Award. It is conveniently located 14 miles from O'Hare International Airport and 21 miles from Midway Airport. The group rate of \$149 per night (including wifi & full breakfast) is available until August 31, 2018. Reservations can be made by calling +1-800-362-2779 or +1-630-969-7500 (Reference "IMI Group Block-Group Code IMM"). Make online reservations at <https://tinyurl.com/IMISept2018>.

To make reservations after August 31, call Dezi +1-630-971-4234. Leave detailed message (IMI Inkjet Group Rate) & she will confirm reservation on August 4th.

The Embassy Suites Chicago - Lombard/Oak Brook recommends Windy City Limousine for airport transfers. One way airport shuttle service is \$30 to or from O'Hare International Airport and \$35 to or from Midway Airport on Sunday through Friday (6:00 am to 8:00 pm). Prices outside of those hours Sunday through Friday and all day Saturday are approximately double. Shuttle reservations can be made at <https://www.windycitylimos.com/> or by calling +1-866-949-4639.

The Embassy Suites Chicago - Lombard/Oak Brook address is:

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